

# *Project Baseline Summary Report*

Data Source: **EM CDB**  
Operations/Field Office: **Savannah River**  
Site Summary Level: **Savannah River Site**  
Project **SR-SW05 / Hazardous Waste Project**

Report Number: **GEN-01b**

Print Date: **3/9/2000**

HQ ID: **0483**

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## **General Project Information**

### **Project Description Narratives**

#### **Purpose, Scope, and Technical Approach:**

##### **Purpose:**

The Hazardous Waste Program involves three primary operations: receipt of waste from on-site generators, interim storage, and shipment of waste for off-site treatment and disposal. Other operations that are equally important and are conducted mainly at the generating facility are waste minimization and pollution prevention.

Waste receipt and interim storage activities include receipt of newly generated waste, verification that the waste meets the facility's waste acceptance criteria, placement of the waste in storage and subsequent surveillance and maintenance of the stored waste. Certification of the waste prior to receipt of the waste is a key component of this operation to ensure that waste is stored correctly and is categorized in the proper treatability group so that it can be treated to meet LDR. The surveillance and maintenance activities at the hazardous waste facilities require an on-going effort to inspect containers, verify secondary containment features, maintain grounds and equipment, and, in some cases, conduct remedial actions to prevent releases from degraded containers. All of these activities are required by the RCRA and SCHWMR.

Hazardous waste is shipped off-site to commercial facilities for treatment and disposal. All of this waste shipped off-site is released in accordance with the WSRC Release Program. Although the release program has proven to be successful, some hazardous waste cannot be released because it cannot be confirmed that there is no DOE-added radioactivity. This is due to several reasons which are: difficulty in obtaining a representative sample from the heterogeneous waste matrices, an inability to obtain radiological analysis of the waste, or inadequate analysis results due to interference from the waste matrix. Activities have been planned and initiated to further investigate and resolve these issues. After investigation and/or processing is completed, the wastes that fall under this program will ultimately be placed into other treatability groups in hazardous waste or will be transferred to existing groups in mixed waste and treated accordingly. No new treatability groups are expected.

##### **Definition of Scope:**

The Hazardous Waste project will involve:

- a) Receipt from site generators, storage, and ultimate shipment offsite of newly generated hazardous wastes for treatment and disposal.
- b) Development of sampling and analysis methodologies to adequately characterize waste that has previously been difficult to sample and/or analyze.
- c) The shipment offsite of legacy hazardous wastes previously considered unshippable for treatment and disposal.

Note: The waste volumes managed by the Solid Waste Management Division (SWM) includes wastes generated throughout the Savannah River Site. The volumes reflected in this project includes those wastes generated by divisions other than SWM.

##### **Technical Approach:**

Hazardous waste is and will continue to be stored on site in RCRA regulated storage facilities until it can be sent offsite for treatment and/or disposal.

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## **Project Description Narratives**

Commercial off-site treatment and CIF are the options currently available for hazardous waste. Resolution of radioactivity screening issues will reduce the current inventory of LDR hazardous waste in storage for greater than one year, i.e. legacy waste, by 100 percent by the end of 2002, which will provide additional storage capacity for continued hazardous waste receipt.

Offsite shipments of Radiological Materials Management Area (RMMA) HW are currently being made in accordance with the WSRC Release Program.

To eliminate those wastes from inventory that have been previously classified as not shippable, i.e. legacy waste, SRS will be working to assess the feasibility and/or develop sampling methodologies to obtain representative samples from heterogeneous waste forms and also analytical techniques to adequately characterize waste that has previously been difficult to analyze. It is possible that a portion of the non-shippable HW will be reclassified as Mixed Waste and treated at CIF or the STP preferred treatment option.

### **Project Status in FY 2006:**

All LDR Legacy Hazardous Waste will be shipped for treatment and disposal by the end of FY2002, or re-classified as MW and handled accordingly. Pre-LDR legacy waste will be characterized as either Mixed Waste or non-radioactive Hazardous Waste and dispositioned between FY2002 and FY2006. Up to and beyond FY2006 newly generated hazardous wastes will continue to be stored, treated and disposed in accordance with RCRA.

### **Post-2006 Project Scope:**

Storage, Treatment, and Disposal activities for hazardous waste will continue beyond FY2006 but funding for the treatment of newly-generated non-EM waste beyond FY2000 is by the waste generator. Environmental Restoration generated waste is expected to increase in the outyears

### **Project End State**

The Hazardous Waste Project is projected to reach end state at the end of FY2024. At that time the facilities will be turned over to the Environmental Restoration Division for final closure.

### **Cost Baseline Comments:**

Budget is generally consistent with data in the Solid Waste Baseline. The HW offsite shipping program estimates are based on the generator waste forecasts. Changes in the forecast will lead to directly proportional changes in the shipping program budget estimates. Budget is not included for Environmental Restoration waste streams HZ-HWS-02 in FY2000, HZ-HWS-04 in FY2000 and FY2001, and PC-PCB-02 in FY2000. No escalation is assumed in the outyear budgets.

### **Safety & Health Hazards:**

The project is currently in the operational phase for receipt and storage of HW which contains the S&H functions necessary to maintain a safe, compliant and operable building in compliance with the authorization basis and federal and state environmental regulations. The principle hazards in these buildings are associated with the storage of chemically contaminated waste. These wastes pose a chemical hazard to workers that could result in injury. In addition, workers can be expected to encounter normal occupational hazards, e.g., moving waste containers, electrical, lifting, tripping, or

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## Project Description Narratives

falls. These hazards will persist throughout the operational life of the buildings. In the closure and/or decommissioning of the HW storage buildings, the principle hazards include normal occupational safety hazards related to building deconstruction and soil remediation.

### Safety & Health Work Performance:

Activities and check points are described by the Integrated Management System Description. The conditions and requirements are clearly established and agreed upon prior to the starting of any project and those requirements are contractually binding upon WSRC. The key elements of the WSRC Integrated Safety Program are to define the scope of work, identify and analyze hazards associated with the work, develop and implement hazard controls, perform work within controls, and provide feedback on adequacy of controls and continue to improve safety management. The WSRC Integrated Procedures Management System is the primary mechanism for implementing the objective, principles and functions of the Safety Management System. This system establishes Company-Level, Division-level, and Program-specific procedures consistent with organizational roles, and ensures a consistent, discipline site-wide approach to safety while performing work. The resource description, costs and skill mix are defined in the following Sections: Costs D.2.2 and D.3, FTEs D. 2.5 and 2.7 of this document.

### PBS Comments:

Adequately covered in previous narratives.

### Baseline Validation Narrative:

## General PBS Information

Project Validated?

Date Validated:

Has Headquarters reviewed and approved project?

No

Date Project was Added: 12/1/1997

Baseline Submission Date: 7/3/1999

FEDPLAN Project? Yes

| Drivers: | CERCLA | RCRA | DNFSB | AEA | UMTRCA | State | DOE Orders | Other |
|----------|--------|------|-------|-----|--------|-------|------------|-------|
|          | N      | Y    | N     | N   | N      | Y     | Y          | N     |

## Project Identification Information

DOE Project Manager: William L. Noll III

DOE Project Manager Phone Number: 803-725-2219

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## General PBS Information

**DOE Project Manager Fax Number:** 803-725-1440  
**DOE Project Manager e-mail address:** william.noll@srs.gov  
**Is this a High Visibility Project (Y/N):**

## Planning Section

### Baseline Costs (in thousands of dollars)

|                                               | 1997-2006<br>Total | 2007-2070<br>Total | 1997-2070<br>Total | 1997  | Actual<br>1997 | 1998          | Actual<br>1998 | 1999          | 2000          | 2001          | 2002          | 2003          | 2004          | 2005          | 2006          |               |
|-----------------------------------------------|--------------------|--------------------|--------------------|-------|----------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| PBS Baseline (current<br>year dollars)        | 47,325             | 200,218            | 247,543            | 8,667 | 8,667          | 5,236         | 5,236          | 4,901         | 3,971         | 11,255        | 2,498         | 2,699         | 2,624         | 3,059         | 2,415         |               |
| PBS Baseline<br>(constant 1999<br>dollars)    | 44,561             | 97,143             | 141,704            | 8,667 | 8,667          | 5,236         | 5,236          | 4,901         | 3,833         | 10,486        | 2,266         | 2,384         | 2,257         | 2,562         | 1,969         |               |
| PBS EM Baseline<br>(current year dollars)     | 47,325             | 200,218            | 247,543            | 8,667 | 8,667          | 5,236         | 5,236          | 4,901         | 3,971         | 11,255        | 2,498         | 2,699         | 2,624         | 3,059         | 2,415         |               |
| PBS EM Baseline<br>(constant 1999<br>dollars) | 44,561             | 97,143             | 141,704            | 8,667 | 8,667          | 5,236         | 5,236          | 4,901         | 3,833         | 10,486        | 2,266         | 2,384         | 2,257         | 2,562         | 1,969         |               |
|                                               | 2007               | 2008               | 2009               | 2010  | 2011-<br>2015  | 2016-<br>2020 | 2021-<br>2025  | 2026-<br>2030 | 2031-<br>2035 | 2036-<br>2040 | 2041-<br>2045 | 2046-<br>2050 | 2051-<br>2055 | 2056-<br>2060 | 2061-<br>2065 | 2066-<br>2070 |
| PBS Baseline (current<br>year dollars)        | 2,536              | 2,573              | 3,311              | 3,103 | 16,537         | 18,581        | 21,550         | 44,081        | 87,946        | 0             | 0             | 0             | 0             | 0             | 0             | 0             |
| PBS Baseline<br>(constant 1999<br>dollars)    | 2,014              | 1,989              | 2,493              | 2,275 | 11,199         | 11,014        | 11,182         | 20,019        | 34,958        | 0             | 0             | 0             | 0             | 0             | 0             | 0             |
| PBS EM Baseline<br>(current year dollars)     | 2,536              | 2,573              | 3,311              | 3,103 | 16,537         | 18,581        | 21,550         | 44,081        | 87,946        | 0             | 0             | 0             | 0             | 0             | 0             | 0             |

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|                                               | 2007  | 2008  | 2009  | 2010  | 2011-<br>2015 | 2016-<br>2020 | 2021-<br>2025 | 2026-<br>2030 | 2031-<br>2035 | 2036-<br>2040 | 2041-<br>2045 | 2046-<br>2050 | 2051-<br>2055 | 2056-<br>2060 | 2061-<br>2065 | 2066-<br>2070 |
|-----------------------------------------------|-------|-------|-------|-------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| PBS EM Baseline<br>(constant 1999<br>dollars) | 2,014 | 1,989 | 2,493 | 2,275 | 11,199        | 11,014        | 11,182        | 20,019        | 34,958        | 0             | 0             | 0             | 0             | 0             | 0             | 0             |

## Baseline Escalation Rates

| 1997  | 1998      | 1999      | 2000      | 2001      | 2002      | 2003      | 2004      | 2005      | 2006      | 2007      | 2008      | 2009      |
|-------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.00% | 0.00%     | 0.00%     | 3.60%     | 3.60%     | 2.70%     | 2.70%     | 2.70%     | 2.70%     | 2.70%     | 2.70%     | 2.70%     | 2.70%     |
| 2010  | 2011-2015 | 2016-2020 | 2021-2025 | 2026-2030 | 2031-2035 | 2036-2040 | 2041-2045 | 2046-2050 | 2051-2055 | 2056-2060 | 2061-2065 | 2066-2070 |
| 2.70% | 2.70%     | 2.70%     | 2.70%     | 2.70%     | 2.70%     | 2.70%     | 2.70%     | 2.70%     | 2.70%     | 2.70%     | 2.70%     | 2.70%     |

## Project Reconciliation

### Project Completion Date Changes:

Previously Projected End Date of Project: 9/1/2024

Current Projected End Date of Project: 9/30/2035

Explanation of Project Completion Date Difference (if applicable):  
Mission extended to 2035

### Project Cost Estimates (in thousands of dollars)

Previously Estimated Lifecycle Cost (1997 - 2070, 1998 Dollars): 87,564

Previously Estimated Lifecycle Cost of Project (1999 - 2070, 1998 Dollars): 73,661

Previously Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars): 75,650

Actual 1997 Cost: 8,667

Inflation Adjustment (2.7% to convert 1998 to 1999 dollars): 1,989

### Project Cost Changes

Cost Adjustments

Reconciliation Narratives

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## Project Reconciliation

**Cost Change Due to Scope Deletions (-):**

**Cost Reductions Due to Efficiencies (-):**

**Cost Associated with New Scope (+):**

**Cost Growth Associated with Scope Previously Reported (+):** 52,150 Revised estimates, new waste forecasts and extension of mission from 2028 to 2035

**Cost Reductions Due to Science & Technology Efficiencies (-):**

**Subtotal:** 127,800

**Additional Amount to Reconcile (+):** 1

**Current Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):** 127,801

## Milestones

| Milestone/Activity                                                                             | Field Milestone Code | Original Date | Baseline Date | Legal Date | Forecast Date | Actual Date | EA | DNFSB | Mgmt. Commit. | Key Decision | Intersite |
|------------------------------------------------------------------------------------------------|----------------------|---------------|---------------|------------|---------------|-------------|----|-------|---------------|--------------|-----------|
| Project Mission Complete                                                                       | SR-SW05-003          |               | 9/1/2035      |            |               |             |    |       |               |              |           |
| Reclass 50% LDR as Non-Rad or MW                                                               | SR-SW05-030          |               | 9/30/1999     |            | 9/30/1999     |             |    |       |               |              |           |
| Reduce Legacy HW Inventory byh 230m3                                                           | SR-SW05-029          |               | 9/30/1999     |            | 9/30/1999     |             |    |       |               |              |           |
| Complete Shipments of Legacy CMP Pit Soils for Offsite Treatment and Disposal                  | SR-SW05-001          |               | 9/30/2001     |            |               |             |    |       |               |              |           |
| Complete Characterization of LDR Hazardous Legacy Waste Awaiting Radiological Characterization | SR-SW05-005          |               | 9/30/2001     |            |               |             |    |       |               |              |           |
| Complete Hazardous Waste Program Activities                                                    | SR-SW05-002          |               | 9/30/2035     |            |               |             |    |       |               |              |           |
| Project Start                                                                                  | SR-SW05-004          |               | 10/1/1996     |            |               |             |    |       |               |              |           |

## Milestones - Part II

| Milestone/Activity            | Field Milestone Code | Critical Decision | Critical Closure Path | Project Start | Project End | Mission Complete | Tech Risk | Work Scope Risk | Intersite Risk | Cancelled | Milestone Description |
|-------------------------------|----------------------|-------------------|-----------------------|---------------|-------------|------------------|-----------|-----------------|----------------|-----------|-----------------------|
| Project Mission Complete      | SR-SW05-003          |                   |                       |               |             |                  |           |                 |                |           |                       |
| Reclass 50% LDR as Non-Rad or | SR-SW05-030          |                   |                       |               |             |                  |           |                 |                |           |                       |

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## Milestones - Part II

| Milestone/Activity                                                                             | Field Milestone Code | Critical Decision | Critical Closure Path | Project Start | Project End | Mission Complete | Tech Risk | Work Scope Risk | Intersite Risk | Cancelled | Milestone Description                                                                          |
|------------------------------------------------------------------------------------------------|----------------------|-------------------|-----------------------|---------------|-------------|------------------|-----------|-----------------|----------------|-----------|------------------------------------------------------------------------------------------------|
| MW                                                                                             |                      |                   |                       |               |             |                  |           |                 |                |           |                                                                                                |
| Reduce Legacy HW Inventory by 230m3                                                            | SR-SW05-029          |                   |                       |               |             |                  |           |                 |                |           |                                                                                                |
| Complete Shipments of Legacy CMP Pit Soils for Offsite Treatment and Disposal                  | SR-SW05-001          |                   |                       |               |             |                  |           |                 |                |           | Complete Shipments of Legacy CMP Pit Soils for Offsite Treatment and Disposal                  |
| Complete Characterization of LDR Hazardous Legacy Waste Awaiting Radiological Characterization | SR-SW05-005          |                   |                       |               |             |                  |           |                 |                |           | Complete Characterization of LDR Hazardous Legacy Waste Awaiting Radiological Characterization |
| Complete Hazardous Waste Program Activities                                                    | SR-SW05-002          |                   |                       |               | Y           |                  |           |                 |                |           | Complete Hazardous Waste Program Activities                                                    |
| Project Start                                                                                  | SR-SW05-004          |                   |                       | Y             |             |                  |           |                 |                |           |                                                                                                |

## Performance Measure Metrics

| Category/Subcategory | Units | 1997-2006 Total | 2007-2070 Total | 1997-2070 Total | Actual Pre-1997 | Planned 1997 | Actual 1997  | Planned 1998 | Planned 1999        | Planned 2000        | Planned 2001        | Planned 2002        | Planned 2003        | Planned 2004        |
|----------------------|-------|-----------------|-----------------|-----------------|-----------------|--------------|--------------|--------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Haz.                 |       |                 |                 |                 |                 |              |              |              |                     |                     |                     |                     |                     |                     |
| Commercial           | MT    | 0.00            | 0.00            | 0.00            | 0.00            |              | 0.00         |              |                     |                     |                     |                     |                     |                     |
| Haz.                 |       |                 |                 |                 |                 |              |              |              |                     |                     |                     |                     |                     |                     |
| DOE On-Site          | MT    | 0.00            | 0.00            | 0.00            | 0.00            |              | 0.00         |              |                     |                     |                     |                     |                     |                     |
| Category/Subcategory | Units | Planned 2004    | Planned 2005    | Planned 2006    | Planned 2007    | Planned 2008 | Planned 2009 | Planned 2010 | Planned 2011 - 2015 | Planned 2016 - 2020 | Planned 2021 - 2025 | Planned 2026 - 2030 | Planned 2031 - 2035 | Planned 2036 - 2040 |
| Haz.                 |       |                 |                 |                 |                 |              |              |              |                     |                     |                     |                     |                     |                     |
| Commercial           | MT    |                 |                 |                 |                 |              |              |              |                     |                     |                     |                     |                     |                     |

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| Category/Subcategory | Units | Planned<br>2004           | Planned<br>2005           | Planned<br>2006           | Planned<br>2007           | Planned<br>2008           | Planned<br>2009           | Planned<br>2010           | Planned<br>2011 -<br>2015 | Planned<br>2016 -<br>2020 | Planned<br>2021 -<br>2025 | Planned<br>2026 -<br>2030 | Planned<br>2031 -<br>2035 |
|----------------------|-------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Haz.                 |       |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |
| DOE On-Site          | MT    |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |
| Category/Subcategory | Units | Planned<br>2036 -<br>2040 | Planned<br>2041 -<br>2045 | Planned<br>2046 -<br>2050 | Planned<br>2051 -<br>2055 | Planned<br>2056 -<br>2060 | Planned<br>2061 -<br>2065 | Planned<br>2066 -<br>2070 | Exceptions                | Lifecycle<br>Total        |                           |                           |                           |
| Haz.                 |       |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |
| Commercial           | MT    |                           |                           |                           |                           |                           |                           |                           |                           | 1,620.00                  |                           |                           |                           |
| Haz.                 |       |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |
| DOE On-Site          | MT    |                           |                           |                           |                           |                           |                           |                           |                           | 0.00                      |                           |                           |                           |